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The effect of knowledge of adolescent girls on the development of secondary sexual characteristics at puberty on self-image of adolescent girls in Wonoayu Sidoarjo

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ABSTRACT

The purpose of this research was to analyze the correlation of adolescent girl knowledge about the development of secondary sexual characteristics during puberty on their self-image. This research used correlational method for the analysis. The population of this research was all adolescent girl students of state junior high school in Wonoayu Sidoarjo. The sample was taken through probability sampling with random sampling technique. The data collected were analyzed using chi-square test (χ^2). The results of this research showed that of 34 respondents (44,7%) who had fair knowledge, 23 respondents (30,3%) gave negative response on their self-image and of 16 respondents (21%) who had good knowledge, 14 respondents (18,4%) gave positive response on their self-image. The statistics test also showed that $\chi_{count} > \chi_{table}$. It meant that there was a correlation between adolescent girl knowledge concerning the development of secondary sexual characteristics and self-image of adolescent girls.

KEYWORDS: Adolescent Knowledge, Self-Image, Secondary Sexual Development

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INTRODUCTION

Adolescence is a period of transition from childhood to adulthood including the aspects of sexuality [1]. Adolescence is a period of transition between childhood and adulthood where there is a growth spurt in which secondary sexual characteristics emerge, fertility is achieved and psychological and cognitive changes occur [2]. Development of adolescents should receive attention in national development in Indonesia because in this period there are some sexual problems that can occur.

Adolescent problem occurs because they are not fully prepared with knowledge of developmental changes in adolescence especially the problem of sexual development. The development of sexual characteristics in adolescent consists of the development of primary and secondary sexual characteristics [2].

The development of primary and secondary sexual characteristics in adolescents occurs at puberty. Puberty is a period in which sexual and physical characteristics mature rapidly especially in the early teens. According to WHO, the age range of puberty is between 10-18 years old [3].

The development of primary sexual characteristics in adolescent girls occurs at the age of 10-18 years marked by the emergence of menstrual periods whereas the emergence of secondary sexual characteristics is marked by physical changes such as breast development, increasing hip size and voice changes. Changes in the development of secondary sexual characteristics on adolescent girls are mostly affected by their physical and hormonal changes [2].

The physical changes that occur and the refusal of the environment on the expression of emotions that sometimes makes emotional and social discomfort sometimes make adolescent girls confused. Changes in various aspects of development in adolescent girls are important to note. It is important to give information on changes in the development of sexual characteristics to adolescents [4].

Data from Health Department of Sidoarjo (2008) [5] showed that the number of adolescents were 2.4 million consisting of 53% adolescent girls and 47% of adolescent boys. This indicated that there were more adolescent girls than adolescent boys.

Results of observations conducted for a week from 4 to 9 January 2008 on 50 adolescent girls of state junior high school students in Wonoayu Sidoarjo showed that in general those adolescent girls seemed to have lack of self confidence. This was evidenced by the fact that 33 adolescent girl students (35%) could not accept the changes in the structure and function of their body resulting in the reduction of social contacts. Results from

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interviews with 9 girls (10%) showed that on average, those girls could not accept changes in the structure and function of their body so that they experienced body image disturbance due to the development of secondary sexual characteristics.

These data indicated that adolescent girls on the stage of development of secondary sexual characteristics did not easily accept the physical changes happening to them. Physical changes experienced by adolescent girls made adolescent girls to be able to accept and adapt to those changes. Ability to adapt to physical changes affected self-image of adolescent girls on themselves as a response to the development of secondary sexual characteristics occurring in adolescence.

The purpose of this study was to determine the relationship between the level of knowledge of adolescent girls on changes in the development of secondary sexual characteristics at puberty and self-image of adolescent girls in state junior high school in Wonoayu Sidoarjo.

MATERIALS AND METHODS

This study was a correlational study with a cross-sectional design [10]. The study population was all adolescent girls in state junior high school in Wonoayu Sidoarjo. The sampling technique used was probability sampling.

1 The independent variable in this study was the level of knowledge of adolescent girls on changes in the development of secondary sexual characteristics at puberty, while the dependent variable was the self-image of adolescent girls.

The operational definition of a variable of the level of knowledge of adolescent girls was that an adolescent girl in state junior high school in Wonoayu knew and understood the changes in the development of secondary sexual characteristics at puberty and was able to answer questions on the development of secondary sexual characteristics and physical changes that she experienced. Adolescent knowledge was measured in ordinal scale, as follows: 1). Adolescent girls were considered to have good knowledge when they could answer more than or at least 75% ($\geq 75\%$) of the questions correctly; 2). Adolescent girls were considered to have fair knowledge when they could answer from 60% to 74% (60-74%) of the questions correctly; and 3). Adolescent girls were considered to have low knowledge when they could answer less than 60% ($<60\%$) of the questions correctly.

The operational definition of a variable of self-image of adolescent girls was the perception of adolescent girls regarding their attitude towards changes in the development of secondary sexual characteristics experienced including body size and shape, appearance function and body potential in current and past situation. Self-image of adolescent girls was categorized in nominal scale, namely: 1). Positive self-image. When adolescent girls could answer more than or at least 60% ($\geq 60\%$) of the questions correctly, it showed that they had a positive self-image, and 2). Negative self-image. When adolescent girls were only able to answer less than 60% ($<60\%$), it showed that they had a negative self-image. Instrument of data collection in this study was questionnaires.

RESULTS AND DISCUSSION

Knowledge of adolescent girls on the development of secondary sexual characteristics

Table 1 shows that the majority of adolescent girls, as many as 34 girls (44.7%), have good knowledge and as many as 16 people (21%) have fair knowledge. According to Notoatmodjo [6] knowledge is the result of curiosity and this occurs after the conduct of a sensing on a specific object.

Table 1. The level of knowledge of adolescent girls in state junior high school in Wonoayu Sidoarjo 2014 (n = 76)

No	Level of knowledge	Frequency	Percentage (%)
1	Good	16	21
2	Fair	34	44,7
3	Low	26	34,3
Total		76	100

The level of education of adolescent girls at puberty is still at the basic education level so that the knowledge and ability to think are still inadequate in association with the development of secondary sexual characteristics. As noted by Notoatmodjo [6] knowledge is influenced by several factors such as experience, education, beliefs, facilities or resources and culture so that the lower the level of knowledge is, the lower the ways thinking is.

The development of secondary sexual characteristics begins in the adolescent year, a transition period between the age of the child into adult. Adolescents just have the first experience to understand and know the physical characteristics experienced on the stage of development of secondary sexual characteristics in adolescence. Adolescents are expected to acquire knowledge at school through teaching and learning on things

they will face at puberty or through education from the people closest to them such as parents and older brother/sister about the common physical changes during puberty [7].

Self-image of adolescent girls

Table 2 shows that the majority of adolescent girls, as many as 51 people (67.1%), have ² negative self-image. According to Stuart and Sudden [8] self-image is a person's attitude towards oneself consciously and unconsciously. This ² includes perceptions and feelings about body size and shape, appearance function and body potential of current and past situation which are continually modified by new experiences from each individual. Negative self-image found in adolescents is caused by low levels of education and immature age [7].

Table 2. Self-image of adolescents in state junior high school in Wonoayu Sidoarjo in 2014 (n = 76)

No	Adolescent self-image	Frequency	Percentage (%)
1	Positive	25	32,9
2	Negative	51	67,1
Total		76	100

The lower the education of a person is, the less experience the person gains. Therefore, self-image disturbance will easily occur. The experience of a person is also measured by the factors of age and education. The higher education and maturity of age of a person is, the more easily a person adapt and accept the changes that happen to him/her [9].

Adolescent with a positive self-image can function more effectively in his/her daily lives and it can be seen from interpersonal skills, intellectual ability and environmental mastery. Negative self-image in adolescents can be seen from maladaptive interpersonal and social relationships [1].

This is in line with the results obtained from the research conducted in state junior high school in Wonoayu Sidoarjo stating that most adolescent girls experience maladaptive interpersonal and social relationships and it is evidenced from the attitude of a student who does not have social skills to interact with teachers and even with his/her own friend.

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Relationship between level of knowledge of adolescent girls in the development of secondary sexual characteristics and self-image of adolescent girls

Table 3 shows that of 34 girls (44.7%) who have fair knowledge, most of them, as many as 23 adolescent girls (30.3%), have negative self-image and of 16 girls (21%) who have good knowledge, as many as 14 adolescent girls (18.4%) show a positive self-image. Kelliat [7] argues that the more knowledge and experience a person has, the more mature self-image of a person is.

Table 3. Relationship between the level of knowledge of adolescent girls on the development of secondary sexual characteristics and self-image of adolescent girls in state junior high school in Wonoayu Sidoarjo in 2014 (n = 76)

No	Level of Knowledge	Adolescent Self-image		Total
		Positive	Negative	
1	Good	14	2	16
2	Fair	11	23	34
3	Low	-	26	26
Total		25	51	76

X² count : 6,087 x² of table: 5,991 P : 0,05

The results of data analysis with *Chi Square* test show that X² count value is 12.3 which is greater than the value of X² table of 5.991 by using the df (*degree of freedom*) 2 which means ¹ H1 is accepted. It means that there is a correlation between the level of knowledge of adolescent girls on the development of secondary sexual characteristics at puberty and self-image of adolescent girls in state junior high school ¹ Wonoayu Sidoarjo.

Viana [3] states that when adolescents know and understand the changes in the development of secondary sexual characteristics and can meet the requirements expected by the social environment, they will have a positive self-image of themselves. Samsunuwiati [1] argues that the higher the level of knowledge of adolescent girls on the development of secondary sexual characteristics is, the higher their self-image is.

Nursalam [10] states that education affects knowledge of a person. The higher the education of a person is, the easier for a person to receive information and conversely. The low education will hinder the development of a person's attitude in receiving messages or information obtained. Changes in a person happen because of not only the learning process but also the maturity process of a person's development [9].

In fact, adolescent girls in state junior high school in Wonoayu Sidoarjo remains at the level of basic education and have fair and low knowledge so that it is possible that these adolescent girls do not receive

adequate information concerning the development of secondary sexual characteristics. As a result, most of these adolescent girls have negative self-image. Viana [3] argues that the more knowledge a person possesses, the more mature the self-image of a person is and conversely, the less knowledge of a person will result in negative self-image.

CONCLUSION

Based on the results of this study, it can be concluded that:

- 1) Most of adolescent girls at the basic level of education possess fair knowledge concerning the development of secondary sexual characteristics.
- 2). Most of adolescent girls possessing fair knowledge concerning the development of secondary sexual characteristics have negative self-image. If adolescent girls have good knowledge regarding the development of secondary sexual characteristics, they will have positive self-image for the physical changes occurring during puberty.

It is suggested that adolescents should be actively seeking information about the physical changes occurring during puberty, especially on the development of secondary sexual characteristics. In addition, they should be able to prepare themselves to adapt to physical changes due to the development of secondary sexual characteristics experienced during puberty. Teachers, parents, and community nurses are suggested to periodically give sex education related to physical changes in the development of secondary sexual characteristics experienced during puberty to adolescents.

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